

REMARKS

In the Office Action of March 22, 2005, the Examiner set forth a number of grounds for objection and rejection. These grounds are addressed individually and in detail below. Claims 1-9 and 11-15 are pending. Claim 10 is withdrawn. Allowance of all pending claims is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1, 2, 4, 6-9, 11, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Haase et al. (U.S. Patent No. 4,178,438) in view of Wieser-Linhart (U.S. Patent No. 5,762,662) for reasons stated on pages 2-3 of the Office Action. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Haase et al. in view of Wieser-Linhart and further in view of Sato et al. (U.S. Patent No. 4,206,080) for reasons stated on page 3 of the Office Action. Claims 5 and 12 rejected under 35 U.S.C. § 103(a) as being unpatentable over Haase et al. in view of Wieser-Linhart and further in view of Hondroulis et al. (U.S. Patent No. 6,027,652) for reasons stated on pages 3-4 of the Office Action. Applicants respectfully traverse the rejections.

As discussed in Applicants' Response to the Office Action of May 18, 2004, Haase et al., Wieser-Linhart, Sato et al., and Hondroulis et al., individually or in combination, do not teach or suggest using an adsorbent material consisting essentially of a natural cellulose-based material, and therefore do not render independent Claim 1 obvious. The Examiner alleges that Applicants have the burden of showing that the introduction of additional components would materially change the characteristics of Applicants' invention. Applicants respectfully submit that the introduction of additional components such as activated carbon and cationically modified, cellulose-containing materials would materially change the characteristics of Applicants'

invention.

It should be noted that the goal of the instant invention is to improve fluid treatment process and reduce technical complexity in a cost-effective manner (see page 4, lines 21-23), and that the basic and novel characteristics of the instant invention is to use the inexpensive, easy-to-dispose natural cellulose-based materials for fluid treatment. Hasse et al. teaches a process for the purification of industrial effluents using cationically modified, cellulose-containing materials. As described in Hasse et al., the cationic modification process is an expensive process requiring multiple steps of chemical treatment (see e.g., col. 15, line 25 to col. 21, line 59). Moreover, Hasse et al. teaches adding activated carbon to the cationically modified, cellulose-containing materials in a preferred amount of 10 to 70% by weight (col. 13, lines 14-22). As described in the instant application, disposal of the spent carbon is problematic and is one of the problems to be solved by using the instant invention. Accordingly, introduction of cationically modified, cellulose-containing materials and activated carbon would materially change the characteristics of Applicants' invention.

Claims 1, 6-9, 11, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zenno et al. (U.S. Patent No. 4,102,783) in view of Wieser-Linhart for reasons stated on page 4 of the Office Action. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Zenno et al. in view of Wieser-Linhart and further in view of Sato et al. for reasons stated on page 4 of the Office Action. Applicants respectfully traverse the rejections.

Each of the above recited rejections of claims relies on the primary reference of Zenno et al. and a common secondary reference, Wieser-Linhart. For this reason, Applicants arguments regarding the two rejections are jointly presented below.

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) must teach or suggest all of the claim limitations. In re Vaeck, 20 USPQ2d 1438

(Fed. Cir. 1991) and MPEP § 2142. Moreover, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art (see MPEP 2143.01; In re Fine, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 21 USPQ2d 1941 (Fed. Cir. 1992)).

Independent Claim 1 of the instant application relates to a method for treating a contaminated fluid, said contaminated fluid comprising **at least one soluble contaminant**, the method comprising the steps of: packing a column with at least one adsorbent material; said adsorbent material consisting essentially of a natural cellulose-based material; passing said contaminated fluid through said packed column where said at least one soluble contaminant is adsorbed onto said cellulose-based material until said cellulose-based material is spent; removing said spent cellulose-based material; and composting said spent cellulose-based material to reduce the volume of spent cellulose-based material and degrade and concentrate said at least one adsorbed contaminant.

Zenno et al., generally describes an adsorbent used for effectively collecting or removing **oily materials** floating on water, emulsified, or dispersed in water. One skilled in the art would understand that the term “oily materials” would exclude any “soluble contaminant,” as recited in Claim 1 of the instant invention. In fact, an oily material, by definition, is insoluble in water. For example, the American Heritage College Dictionary, third edition, defines “oil” as “any of numerous mineral, vegetable, and synthetic liquids and animal and vegetable fats that are generally combustible, viscous, soluble in various organic solvents such as ether but not in water....”

The Examiner alleges that Zenno et al. Discloses removing organic contaminants which

are at least slightly soluble in water and cited column 8, lines 52-57 of Zenno et al. As support. Applicants respectfully submit that nothing in the cited section support the notion that the organic contaminant is slightly soluble in water. The cited section relates to samples of water containing 130ppm, 800ppm and 2100 ppm of Heavy Oil A. The unit “ppm” refers to “part per million,” which indicates the amount of the contaminant but is unrelated to solubility. In fact, the section describes using a homogenizer to “forcibly disperse the oil and using the dispersions as the samples of waste water...” (Col. 8, lines 55-57). One skilled in the art would understand that dispersing oil in water by homogenizing does not suggest that the oil is “slightly soluble in water.” Accordingly, Zenno et al. does not teach or suggest treating a fluid contaminated with at least one soluble contaminant.

Wieser-Linhart does not cure the deficiency of Zenno et al. Wieser-Linhart describes a method and apparatus for binding emulsified resin and tar substances in circulating water of a wet-cleaning a wet precipitation system for waste gas produced in the wood industry. Neither resin nor tar is soluble. Accordingly, Zenno et al. and Wieser-Linhart, individually or in combination, do not render Claim 1 obvious.

If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. In re Fine, 5 USPQ2d 1596 (Fed Cir. 1988). Accordingly, dependent Claims 3, 6-9, 11, 13, and 14 are patentable because they depend from Claim 1 and define additional patentable subject matter. Withdrawal of the 35 U.S.C. § 103 rejection to Claims 1, 3, 6-9, 11, 13, and 14 is respectfully requested.

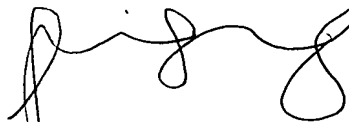
Allowed Claim

Applicants thank the Examiner for indicating that Claim 15 is allowable.

In light of the above, Applicants believe that this application has been placed in condition for allowance and therefore requests favorable consideration. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

DLA PIPER RUDNICK GRAY CARY U.S. LLP



James M. Heintz
Registration No. 41,828

1200 Nineteenth Street, N.W.
Washington, D.C. 20036-2412
Telephone No. (202) 861-3900
Facsimile No. (202) 223-2085

Ping Wang
Registration No. 48,328